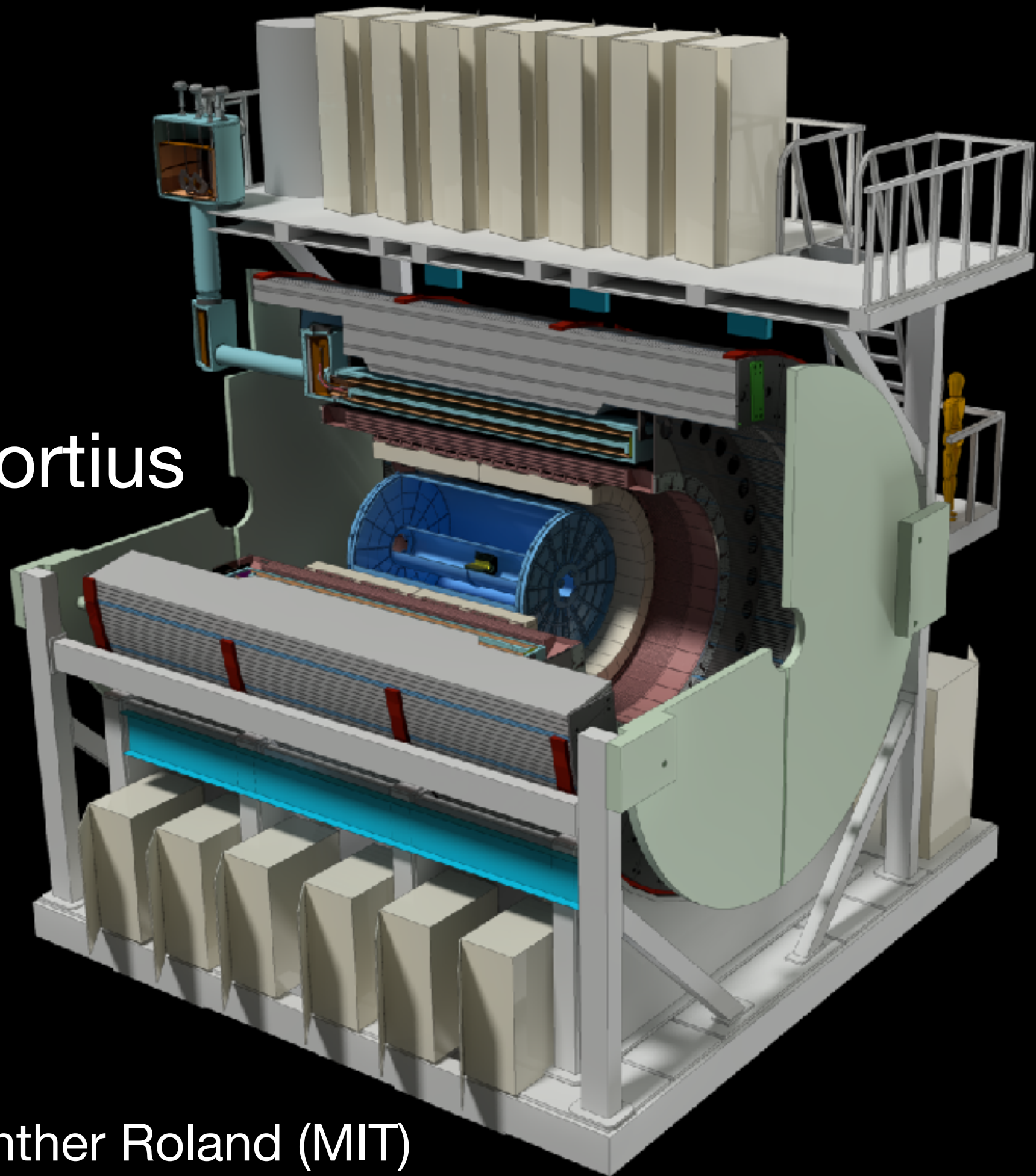


2017!
Citius, Altius, Fortius



Dave Morrison (BNL), Gunther Roland (MIT)



**KEEP
CALM
AND
VOLUNTEER**

(to take minutes for today's meeting)

Plan for today

Friday, 13 January 2017

12:00 - 12:30

sPHENIX News 30'

Speakers: Dr. David Morrison (BNL), Prof. Gunther Roland (MIT)

Material:

Slides



12:30 - 13:00

Project update 30'

Speakers: Edward O'Brien (BNL), John Haggerty (Brookhaven National Laboratory)



13:00 - 13:30

MAPS workfest report 30'

Speaker: Dr. Ming Liu (Los Alamos)



sPHENIX Collaboration Meeting
Georgia State University
December 15–17, 2016

Thanks, Megan, Xiaochun,
Murad and all the GSU
students!



Application by three institutions approved by IB:
LBNL, UC Berkeley, Temple University

In round numbers, we are 220 collaborators from 60 institutions.

Good facilities, good discussions



... and good food too!



Fresh this morning: BNL web feature about sPHENIX!

sPHENIX Gets CD0 for Upgrade to Experiment Tracking the Building Blocks of Matter

First step on a path toward a detector with unprecedented capabilities for deciphering how the properties of the hottest matter in the universe emerge from the interactions of its fundamental particles

January 13, 2017



The solenoid magnet that will form the core of the sPHENIX detector

[+ ENLARGE](#)

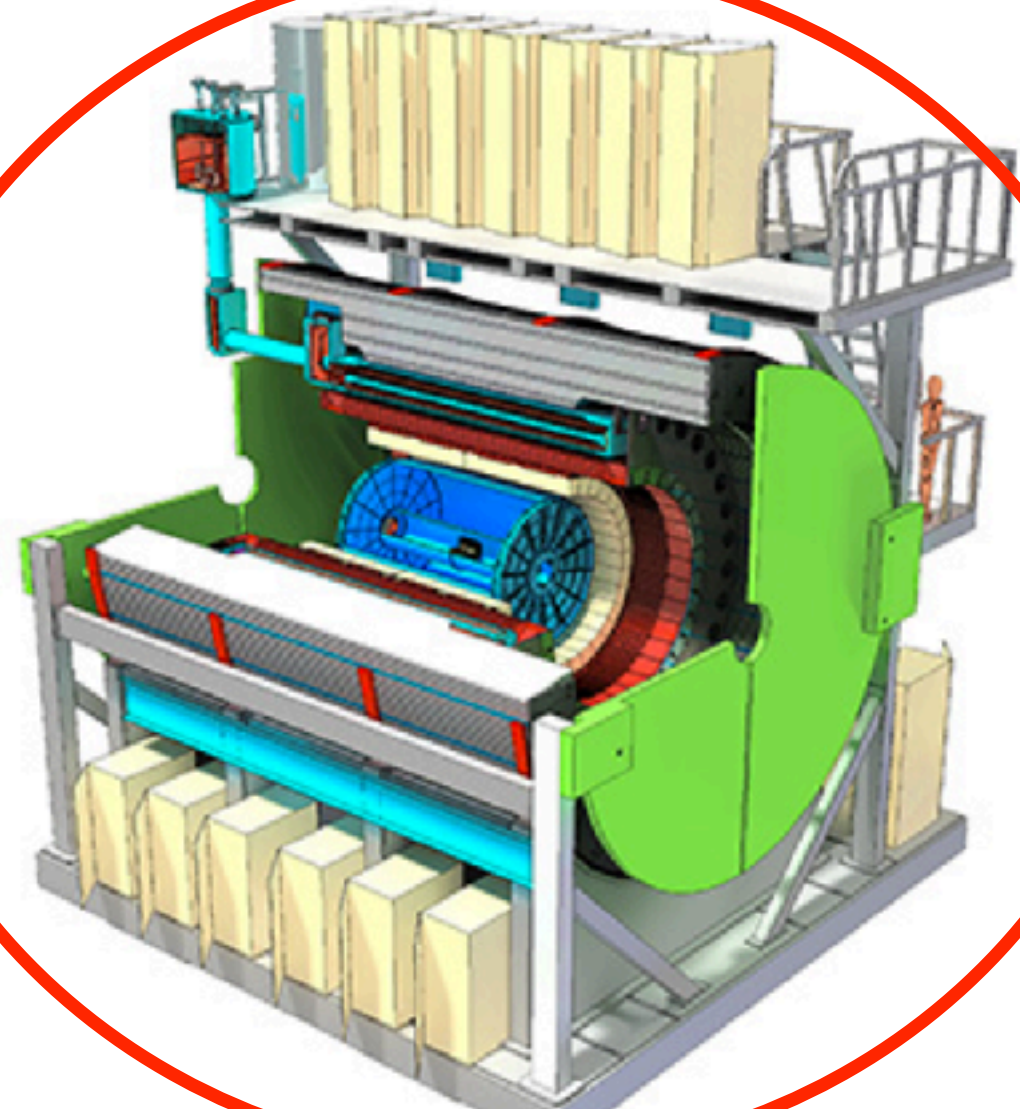
<https://www.bnl.gov/newsroom/news.php?a=26793>

The sPHENIX project is an upgrade of RHIC's former PHENIX detector, which completed its data-taking mission in June 2016.

"We'll be leveraging scientific and financial investments already made when building RHIC," said Gunther Roland, a physicist at the Massachusetts Institute of Technology and the other co-spokesperson for sPHENIX. "But at the same time, the transformation will introduce new, state-of-the-art detector systems."

With a superconducting solenoid magnet recycled from a physics experiment at DOE's SLAC National Laboratory at its core, state-of-the-art particle-tracking detectors, and an array of novel high-acceptance calorimeters, sPHENIX will have the speed and precision

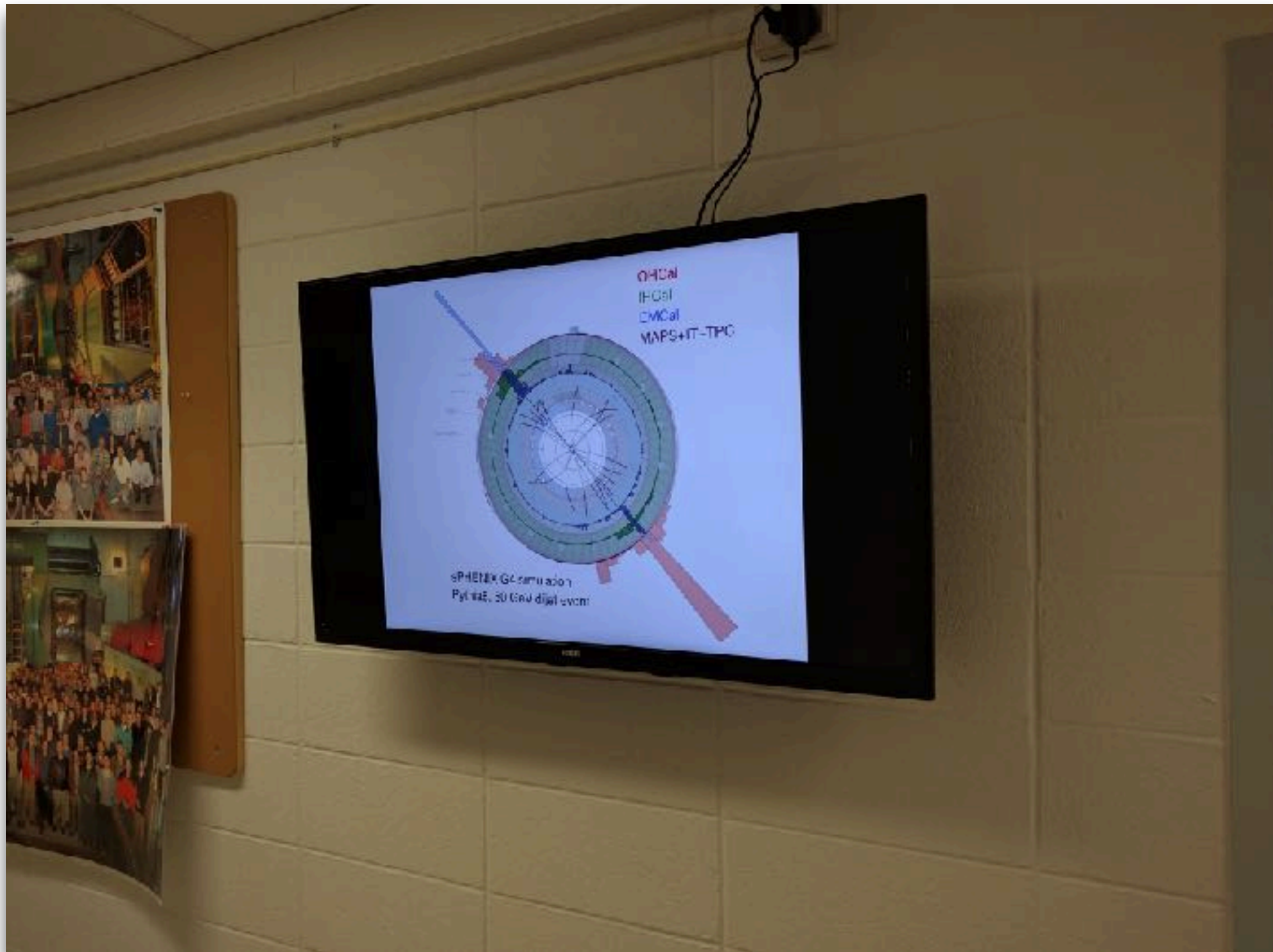
needed to track and study the details of particle jets, heavy quarks, and rare, high-momentum particles produced in RHIC's most energetic collisions. These capabilities will allow nuclear physicists to probe properties of the quark-gluon plasma at varying length scales to make connections between the interactions among individual quarks and gluons and the collective behavior of the liquid-like primordial plasma.



A schematic of the sPHENIX detector.

Good. Using up-to-date detector image.

Monitor to display cool sPHENIX images now in BNL hallway



If you have/develop something eye-catching (and, you know, appropriate!), send it to me or Gunther and we'll get it into rotation. 8

Quark Matter 2017



Design, status and schedule of the sPHENIX experiment at RHIC

8 Feb 2017, 09:50

20m

Regency D ()

Oral

Future Experimental F...

Parallel Session 5.4

Speaker

 Megan Elizabeth Connors (Yale University (US))

Description

The 2015 US Nuclear Physics Long Range Plan calls for a state-of-the-art jet and upsilon detector at RHIC, called sPHENIX, to study the microscopic nature of the QGP, complementing similar studies at the CERN LHC. The sPHENIX detector will provide precision vertexing, tracking and full calorimetry over pseudorapidity $|\eta| < 1.1$ and full azimuth at the full RHIC collision rate, delivering unprecedented data sets for jet and upsilon measurements at RHIC. This will enable the three pillars of the sPHENIX physics program, i.e., studies of jet structure modifications, measurements of heavy-flavor tagged jet production and precision upsilon spectroscopy. In this talk we will present an overview of the sPHENIX detector design, expected construction and running schedule and planned physics program.

Preferred Track Future Experimental Facilities, Upgrades, and Instrumentation

Collaboration sPHENIX

Primary author

 Megan Elizabeth Connors (Yale University (US))

**Time to update
your profile!**

Presentation Materials

There are no materials yet.

plan for a practice
talk at next general
meeting (January 27)

WBS 1.2 Tom Hemmick

- sPHENIX Tracking Performance Simulations, Veronica Canoa (SBU)
<http://indico.cern.ch/event/433345/contributions/2358221/>
- sPHENIX TPC mechanical design, Klaus Dehmelt (SBU)
<http://indico.cern.ch/event/433345/contributions/2358224/>
- R&D Studies for the sPHENIX Time Projection Chamber, Prakhar Garg (SBU)
<http://indico.cern.ch/event/433345/contributions/2358223/>
- Design of the sPHENIX tracker, Sourav Tarafdar (VU)
<http://indico.cern.ch/event/433345/contributions/2358220/>
- Front End Readout for the sPHENIX Time projection chamber, Takao Sakaguchi (BNL)
<http://indico.cern.ch/event/433345/contributions/2358230/>

WBS 1.4 Craig Woody

- Test Beam Performance of the sPHENIX EMCal Prototype, Virginia Bailey (UIUC)
<http://indico.cern.ch/event/433345/contributions/2358225/>

WBS 1.5 John Lajoie

- A Prototype of the sPHENIX Hadronic Calorimeter, Abhisek Sen (ISU)
<http://indico.cern.ch/event/433345/contributions/2358227/>
- Construction and testing of the sPHENIX hadronic calorimeter prototype, Jamie Nagle (Colorado)
<http://indico.cern.ch/event/433345/contributions/2358226/>
- Design and test-beam performance of the sPHENIX calorimeter system, Jin Huang (BNL)
<http://indico.cern.ch/event/433345/contributions/2374660/>

WBS 1.6 Eric Mannel

- A Common Readout System for the sPHENIX Electromagnetic and Hadronic Calorimeters, Eric Mannel (BNL)
<http://indico.cern.ch/event/433345/contributions/2358229/>

WBS 1.7 Martin Purschke

- The Readout and Data Acquisition Design of the sPHENIX Detector at RHIC, Martin Purschke (BNL)
<http://indico.cern.ch/event/433345/contributions/2358228/>



relevant L2 manager or TG
convener will approve posters

MAPS Ming Liu

- R&D for the sPHENIX MAPS inner tracker, Ming Liu (LANL)
- Identification of heavy-flavor jets in sPHENIX using MAPS, Cesar da Silva (LANL)
<http://indico.cern.ch/event/433345/contributions/2358217/>

INTT Itaru Nakagawa

- The intermediate tracking system of the sPHENIX detector at RHIC, Gaku Mitsuka (RBRC)
<http://indico.cern.ch/event/433345/contributions/2374661/>

Cold QCD TG (Nils Feege, Christine Aidala)

- Studying Proton Structure, the Partonic Structure of Nuclei, and Hadronization at sPHENIX, Chong Kim (UCR)
<http://indico.cern.ch/event/433345/contributions/2358231/>

Upsilon spectroscopy TG (Marzia Rosati, Tony Frawley)

- Modification of Upsilon production in nuclear collisions measured with sPHENIX, Krista Smith (FSU)
<http://indico.cern.ch/event/433345/contributions/2358218/>

Jet structure TG (Rosi Reed, Dennis Perepelitsa)

- Jet spectra and jet structure measurements with sPHENIX, Rosi Reed (Lehigh)
<http://indico.cern.ch/event/433345/contributions/2358219/>

Heavy flavor jet TG (Jin Huang, Mike McCumber)

- B-Jet Tagging Algorithms for sPHENIX at RHIC, Haiwang Yu (NMSU)
<http://indico.cern.ch/event/433345/contributions/2358232/>

Common luminosity assumptions

- For updated plots (for QM'17, for MAPS proposal, etc), need to settle on consistent integrated luminosity.
 - need volunteer to go through C-AD guidance, sPHENIX proposal, and current sPHENIX design to nail down a supportable number
 - We had 100B minimum bias Au+Au events in 22-week run in proposal. Is that still the correct number to use? E.g., the z-vertex acceptance of the MAPS IB+INTT is larger than the PHENIX VTX.
- For eRHIC thinking, we've received very rough guidance ("ballpark estimate") on integrated luminosity growth:
 - Year 1: 0.2/fb
 - Year 2: 1.1/fb
 - Year 3: 2.6/fb
 - Year 4: 11.3/fb
 - Year 5: 46.8/fb

sPHENIX sSTYLE?



Initiative taken by Rosi Reed – thanks! – getting useful input from Nils Feege, Jin Huang, others.

What to do about logo?

Assuming this converges – and it looks like it will – would ask poster preparers to follow template.

Current plan for QM'17 posters is that they won't be clustered by topic – so having an identifiable “style” helps consolidate presence.

A poster template for sPHENIX. The header is green and contains the PHENIX logo, the text 'Insert your title here', and the Quark Matter 2017 logo. Below the header is a light blue box with the text 'Sally Sparrow, for the sPHENIX Collaboration'. The main body is a light blue box with a grid of sections: 'Abstract' (with a placeholder for text), 'Title' (with a placeholder for text), 'Plot' (with a placeholder for a plot), and three more 'Title' sections (each with a placeholder for text). The footer is white and contains the Office of Science logo, the Brookhaven National Laboratory logo, and the text 'Any other necessary logos'.



Discussions with the ALD

- RHIC bulletin came out December 23, 2016.
 - contains statement of inclusivity – strengthened after feedback
 - celebrates sPHENIX CD-0
 - upcoming Nat'l Academies of Science Review of EIC science (next slide)
- Met with ALD Berndt Mueller on Wednesday (1/11/2017)
- One topic was the federal budget. Currently, gov't is operating under a “continuing resolution”. What will happen with the federal budget is unclear. DOE and BNL and RHIC and sPHENIX are all potentially affected by this, so we emphasized the importance of open communication between the ALD and sPHENIX management.
- We also raised the issue of the largely non-existent “sPHENIX office” to support collaborators. Berndt understands that this is an problem. We're looking for help from the Physics Department and/or the NPP Directorate to solve it.
- PAC meeting is scheduled for June 15–16, 2017

NAS review, EIC Science Director for BNL

- What is the merit and significance of the science that could be addressed by an electron ion collider facility and what is its importance in the overall context of research in nuclear physics and the physical sciences in general?
- What are the capabilities of other facilities, existing and planned, domestic and abroad, to address the science opportunities afforded by an electron-ion collider? What unique scientific role could be played by a domestic electron ion collider facility that is complementary to existing and planned facilities at home and elsewhere?
- What are the benefits to U.S. leadership in nuclear physics if a domestic electron ion collider were constructed?
- What are the benefits to other fields of science and to society of establishing such a facility in the United States?

BNL is looking to hire a Director for EIC Science in NPP:

“Key responsibilities of the position are to assure that a strong scientific case for the EIC is developed emphasizing the specific discovery potential of the eRHIC facility and that the developing experimental program and detector R&D addresses the most important science opportunities enabled by eRHIC.”